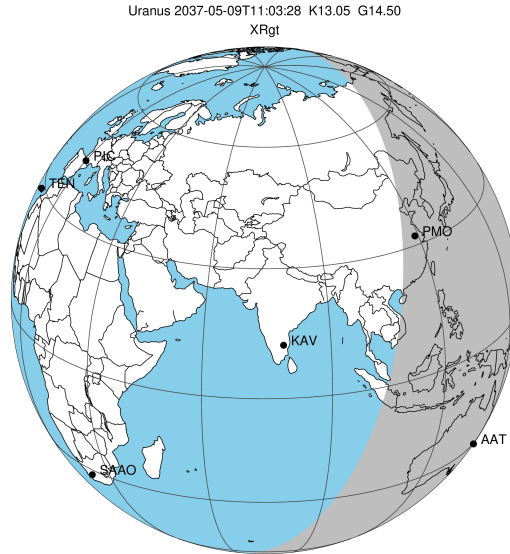


target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2037-05-09T11:03:28.640
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Gaia source ID : 3368289210962587136
 2Mass ID (if available) : 07092775+2254308

ICRS Star Coord at Epoch: 07h 09m 27.75026s +22:54:30.43574s

RUWE (>1.4 is poor) : 1.04
 K magnitude : 13.047
 G magnitude : 14.504
 RP magnitude : 14.030
 BP magnitude : 14.814
 DUPflag : 0
 Distance (au) : 19.270
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 22.54
 Sun-Target sep (deg) : 57.31
 Sun-Moon sep (deg) : 122.76
 B (ring opening deg) : 60.62
 PA of pole (deg) : 80.14

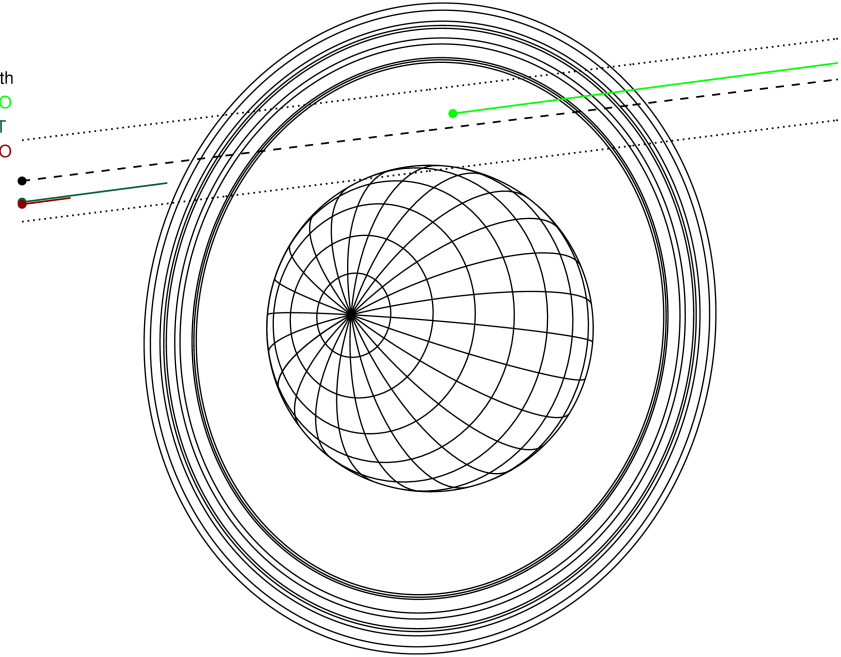
#	a(km)	ring
1	41837.2	6
2	42235.0	5
3	42571.2	4
4	44718.5	alpha
5	45661.1	beta
6	47176.1	eta
7	47626.3	gamma
8	48300.3	delta
9	50026.7	lambda
10	51149.4	epsilon



2037-05-09T11:03:28.6400 ex: 07 09 27.7503 s: +22 54 30.436 C/A 2.214" PA 187.09 deg v_sky +22.54 km/s D 19.27 AU
 Credit: Styled after SORA/Lucky Star

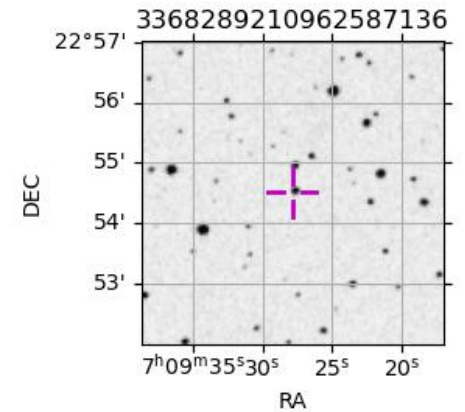
Uranus 2037-05-09T11:03:28 K13.05 G14.50 XRgt

Earth
 PMO
 AAT
 MSO

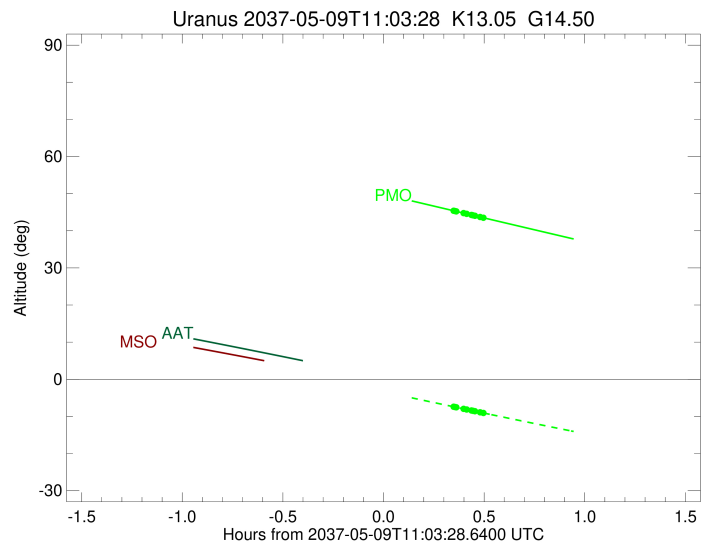
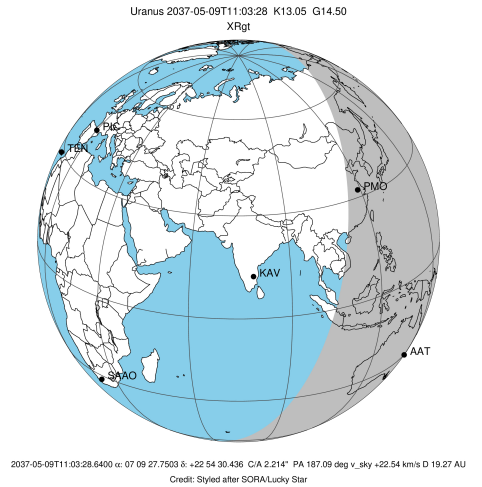


Observable events with sun below -5 deg and altitude above 5 deg unblocked by planet

Obs	Location	lat	Elon	Rings I	Planet	Rings E	Observed Events Interval	OEcode
PIC	Pic du Midi	42.9	0.1					PnnRnn
PAL	Palomar Mt (200")	33.4	243.1					PnnRnn
PMO	Purple Mtn Obs. Nanki	32.1	118.8			+++++++	MAY 09 11:24 - MAY 09 11:33	PnnRne
KPNO	Kitt Peak Natl Obs	32.0	248.4					PnnRnn
MCD	McDonald Obs. 2.7m	30.7	256.0					PnnRnn
TEN	Teide Obs./Tenerife	28.3	343.5					PnnRnn
IRTF	Mauna Kea/IRTF	19.8	204.5					PnnRnn
KAV	Kavalur Observatory	12.6	78.8					PnnRnn
RIO	Rio de Janeiro	-22.9	316.8					PnnRnn
ESO	European Southern Obs	-29.3	289.3					PnnRnn
AAT	Siding Spring (AAT)	-31.3	149.1					PnnRnn
SAAO	So. Afr. Astro. Obs.	-32.4	20.8					PnnRnn
MSO	Mt. Stromlo Observato	-35.3	149.0					PnnRnn



target : Uranus
 target radius (km) : 25559.00
 C/A epoch : 2037-05-09T11:05:58.510
 Event type : XRgt
 : No Uranus occs
 : Ring occs: geocentric, topocentric
 Observer code : PMO
 Location : Purple Mtn Obs. Nanking
 Latitude (deg) : 32.06667
 E. Longitude (deg) : 118.82089
 Altitude (km) : 0.364
 Gaia source ID : 3368289210962587136
 2Mass ID (if available) : 07092775+2254308
 ICRS Star Coord at Epoch: 07h 09m 27.75026s +22:54:30.43574s
 RUWE (>1.4 is poor) : 1.04
 K magnitude : 13.047
 G magnitude : 14.504
 RP magnitude : 14.030
 BP magnitude : 14.814
 DUPflag : 0
 Distance (au) : 19.270
 f0 (km) : 0.000
 g0 (km) : 0.000
 skyplane vel. (km/s) : 22.54
 Sun-Target sep (deg) : 57.31
 Sun-Moon sep (deg) : 123.05
 B (ring opening deg) : 60.62
 PA of pole (deg) : 80.14
 Pole direction: RA (deg): 257.31100
 Dec (deg): -15.17500
 C/A sky separation (") : 2.355
 C/A sky separation (km) : 32915.3
 NAIF SPICE kernels : RAJobs_U111+rgf15.spk
 URKALLvl.spk
 ura111.bsp
 IAU_URANUS_for_RINGFIT.tpc
 vgr2.ura111.bsp
 ura161.bsp
 vgr2.ura161.bsp
 peph.ura160.bsp
 earthstns_itrf93_040916.bsp
 earth_720101_070426.bpc
 earth_200101_990628_predict.bpc
 pg3f0000r.bsp
 pg490000r.bsp
 naif0012.tls
 earth_flat_IAU.spk



Ring	I/E	UTC	b?	alt	alt-sun	radius	r-dot	lat-geo	lat-geodetic
epsilon	I	2037-05-09T10:41:46.256		54.45	0.92x	51529.46	-19.32		
lambda	I	2037-05-09T10:43:05.065		54.18	0.66x	50026.71	-18.85		
delta	I	2037-05-09T10:44:37.970		53.85	0.35x	48300.35	-18.30		
gamma	I	2037-05-09T10:45:15.307		53.72	0.22x	47621.46	-18.06		
eta	I	2037-05-09T10:45:40.074		53.63	0.14x	47176.12	-17.90		
beta	I	2037-05-09T10:47:06.201		53.32	-0.14x	45658.42	-17.30		
alpha	I	2037-05-09T10:48:02.997		53.12	-0.33x	44685.54	-16.85		
4	I	2037-05-09T10:50:10.070		52.67	-0.75x	42608.57	-15.76		
5	I	2037-05-09T10:50:34.760		52.58	-0.83x	42211.73	-15.57		
6	I	2037-05-09T10:51:03.179		52.48	-0.92x	41799.37	-15.28		

No planet occultations

6	E	2037-05-09T11:24:20.069		45.40	-7.39	41808.52	15.32		
5	E	2037-05-09T11:24:52.238		45.29	-7.49	42303.99	15.61		
4	E	2037-05-09T11:25:08.213		45.23	-7.54	42554.42	15.80		
alpha	E	2037-05-09T11:27:19.995		44.77	-7.96	44707.08	16.90		
beta	E	2037-05-09T11:28:16.935		44.56	-8.14	45680.84	17.35		
eta	E	2037-05-09T11:29:41.623		44.26	-8.41	47176.12	17.95		
gamma	E	2037-05-09T11:30:06.460		44.18	-8.49	47624.13	18.12		
delta	E	2037-05-09T11:30:43.530		44.04	-8.60	48300.35	18.36		
lambda	E	2037-05-09T11:32:16.124		43.72	-8.90	50026.71	18.92		
epsilon	E	2037-05-09T11:33:18.860		43.49	-9.09	51224.57	19.39		